

DOCUMENT RESUME

ED 328 538

SP 032 885

TITLE White Paper on School-Lunch Nutrition.
INSTITUTION Center for Science in the Public Interest,
Washington, D.C.
PUB DATE Dec 90
NOTE 26p.; Prepared by the Citizen's Commission on School
Nutrition.
AVAILABLE FROM Center for Science in the Public Interest, 1875
Connecticut Avenue, NW, Suite 300, Washington, DC
20009 (\$5.00).
PUB TYPE Reports - Descriptive (141) -- Guides - Non-Classroom
Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Dietetics; *Eating Habits; Elementary Secondary
Education; *Food Standards; Government Role; *Health
Promotion; *Lunch Programs; *Nutrition Instruction
IDENTIFIERS *School Lunch Program

ABSTRACT

Recommendations are made on how school lunch programs can provide better nutrition and promote healthier eating habits. Recommendations consist of goals with both short-term and mid-term objectives. The short-term objectives should be implemented over the next 2 to 4 years; the mid-term objectives should be implemented by the year 2000 or sooner where feasible. Recommendations are made on: (1) dietary fat; (2) fiber from fruits, vegetables, and whole grains; (3) sodium; and (4) non-nutritious competitive foods. Additional recommendations are made on cholesterol, sugar, and food additives. Recommendations are also made for the federal government on school lunch funding, nutrition education and training, reducing the fat content of milk, and school lunch nutritional requirements. Tables provide information on how the type of milk affects the fat content of lunches, and dietary guidelines for lunchtime fat grams and calories. (JD)

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White Paper on School-Lunch Nutrition

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Citizens' Commission on School Nutrition
Washington, D.C.

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December, 1990

Citizens' Commission on School Nutrition*

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Preface

The Citizens' Commission on School Nutrition prepared this report to promote improvements in the nutritional quality of America's school-lunch program. The Commission believes that a nutritious, publicly funded school-lunch program is integral to children's health. The Commission hopes that this report will more fully engage Congress, the U.S. Department of Agriculture, and the public in supporting a more healthful school-lunch program.

The commissioners, who all served without remuneration, all gave generously of their time to help conceive and edit this report. Victoria Leonard, director of the Children's Nutrition Project of the Center for Science in the Public Interest (CSPI), coordinated the commission's work.

The Citizens' Commission on School Nutrition was convened by CSPI, a non-profit organization that promotes improved health and environmental policies. Its concern about children's nutrition has led CSPI to produce activity books for teachers, educational films, and handbooks for parents and others seeking to improve their children's diets in and outside of school. CSPI thanks the Glen Eagles Foundation and CSPI members for the financial support that made this report possible.

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White Paper on School-Lunch Nutrition Summary of Recommendations

The Commission urged schools to implement the following measures to the greatest extent possible within the next two to four years:

- Lunches should be limited to an average of 35 percent of calories from fat, no more than one-third coming from saturated fat. The fat level should ultimately be reduced to 30 percent of calories.
- Fresh fruits, fresh vegetables, and legumes should be served much more frequently to increase consumption of fiber and vitamins.
- Sodium should be kept to an average of 1,000 milligrams per lunch. Sodium should later be lowered to 800 milligrams.
- Relatively non-nutritious foods that compete with school lunch, such as soft drinks, candy, and chips, should not be sold at school during school hours.
- Schools should reduce the levels of cholesterol, sugar, and certain food additives in school lunches.

The Commission urged Congress and the USDA to take the following steps to improve the nutritional quality of the school lunch and make it more affordable, as well as to promote nutrition education:

- Congress should mandate that schools only offer milk with 2 percent or less fat; later, the fat level should be lowered to 1 percent.
- USDA should set nutritional standards for school lunches, government-supplied commodities, and foods marketed by vendors.
- USDA should require vendors to provide schools with nutrition information.
- Congress should greatly increase per-student funding for school lunches.
- Congress should increase annual funding for the Nutrition Education and Training (NET) program beyond the current \$7.5 million.

Citizens' Commission on School Nutrition, December, 1990

Introduction

The National School Lunch Program (NSLP), since 1946, has provided low-cost, vitamin-packed lunches to tens of millions of American school children. Today, with more single-parent households, more working mothers, and more children in poverty, school lunches are more important than ever. Every school day, 24 million children sit down to a lunch provided by their schools and funded in part by the federal government (see Appendix 1). For many children, the school lunch has made the difference between going hungry and being satisfied, between being under-nourished and being well-fed.

The importance of the NSLP to our children's health makes it imperative that schools provide lunches that reflect the relationship between diet and health. In response to that concern, the Center for Science in the Public Interest convened the Citizens' Commission on School Nutrition. Commissioners range from school-food-service representatives and cardiologists to nutrition educators. Despite their diversity, they all concur that nutritious meals in the NSLP are essential to children's healthy development. Yet, the U.S. Department of Agriculture (USDA), which manages the NSLP, has not played an aggressive enough leadership role in incorporating the government's own *Dietary Guidelines for Americans* into the program. Consequently, the Commission has addressed this gap by developing for local schools, parents, and government officials recommendations on key nutritional issues.

On May 21, 1990, the Citizens' Commission on School Nutrition met in Washington, D.C., to hear medical experts and nutritionists discuss some of the research on children, diet, and disease and the need for improving school meals. The Commission discussed strategies for enabling school-food directors to improve the healthfulness of school lunches. Out of those deliberations, the Commission developed recommendations on how schools can feed children better and promote healthier eating habits.

In recent years, USDA, spurred by the American School Food Service Association, Congress, and others, has begun showing a renewed concern about lunches that contain unhealthy levels of fat, cholesterol, and sodium. For example, USDA has developed new low-sodium recipes and revised specifications for commodities to lower the percentage of fat in meats. USDA is also test-marketing ground beef patties made with added vegetable protein for a patty that has as little as 10 percent fat by weight. Furthermore, USDA is now working with the U.S. Department of Health and Human Services (HHS) to modernize nutritional guidelines for the NSLP. It is to be hoped that those guidelines reflect the USDA-HHS's *Dietary Guidelines for Americans* which encourages a diet higher in fiber and lower in fat, saturated fat, cholesterol, sodium, and sugar. *Dietary Guidelines for Americans* reflects medical research linking diet to coronary heart disease, cancer, dental caries, and other health problems.

Financial and Other Constraints

Schools seeking to feed students well are bedeviled by a variety of obstacles. Over the past decade, federal budget cuts and cutbacks in free "bonus" commodities have made lunches increasingly expensive for schools. Current funding, adjusted for inflation, is only 58 percent of its initial 1946 level. Nutritious fresh and unprocessed foods sometimes cost more to buy and store than convenience foods. Also, most schools lack funds to train food-service workers adequately to cook more nutritious meals. Few food-service directors have computers and software to facilitate assessing the nutritional quality of the meals they serve. Obviously, these constraints limit the ability of many schools to implement the nutritional recommendations made below. On the other hand, in several years the new government-financed School Food Service Management Institute should be able to assist local food-service directors in analyzing the nutritional content of recipes and meals.

Another factor that makes it more difficult than ever to get children to "eat their vegetables" is children's taste expectations. Children reared from the age of two on cheeseburgers and french fries expect "fast foods" from their schools. Though they may want to provide nutritious meals, schools have to respect students' taste preferences to retain them as customers. Simply providing nutritious items will not get some children to actually eat the foods. In practice, implementing nutrition-oriented changes often means changing foods gradually, introducing new foods only with clear explanations to students, and improving the nutritional profile of familiar foods.

Nutrition Education

The eating habits that children develop during their school days strongly influence their lifelong diets and have a tremendous impact on their health. To help teachers and school-food managers promote healthy eating habits, Congress created the Nutrition Education and Training (NET) program. NET funds school districts to develop classes on food, diet, and health; to purchase books, posters, and videocassettes; and to develop education programs using the school kitchen as a nutrition laboratory. Furthermore, NET has funded valuable training for cafeteria workers, teaching them ways to prepare more nutritious foods and to manage the program more efficiently.

In the early 1980s, the federal government spent \$20 million per year on NET, but now spends only \$7.5 million. That amounts to less than 14 cents per school-age child. By contrast, McDonald's spent \$40 million in 1988 solely for children's television ads. This lopsided imbalance suggests the difficulty of promoting healthy eating habits through nutritious school lunches.

Recommendations

The Commission believes that its recommendations regarding fat, saturated fat, natural sources of dietary fiber, sodium, and competitive foods will help the National School Lunch Program meet students' dietary needs and lead to lifelong healthy eating habits. It also believes that Congress, USDA, state departments of education and health, local school boards, food-service directors, parent-teacher organizations, parents, and students can all play a part in implementing the recommendations. With a united effort, substantial improvements can be made in feeding the nation's school children, as has already happened in many communities.

The Commission's recommendations consist of goals with both short-term and mid-term objectives. The short-term (Tier 1) objectives should be implemented over the next two to four years; the mid-term (Tier 2) objectives should be implemented by the year 2000 or sooner where feasible. The mid-term objectives are based on current practices in a number of school systems around the country. Even Tier 2 guidelines do not represent an *optimal* diet and should be considered interim. For some situations, a two-step solution is unnecessary, and only a single recommendation was developed. As more healthful fresh and processed foods become available, and as schools gain the ability to calculate the nutritional values of meals, schools should be able to provide even healthier lunches.

USDA requires lunches to have five food items from four components: a meat or meat alternate (egg, peanut butter, etc.), bread, milk, and two servings of fruits or vegetables. However, actual nutritional intakes depend on the selections made by individual students, especially in senior-high and other schools with the "offer vs serve" policy, which permits older students to select only three (or more) of the five foods offered.¹ Consequently, though the whole meal may meet certain nutritional standards (e.g., fat, vitamins, etc.), the meal's actual nutritional value depends upon an individual student's selections. The recommendations set out below apply to the whole meal.

RECOMMENDATIONS FOR SCHOOLS

1. DIETARY FAT

GOAL: Provide meals low in total fat and saturated fat.

RATIONALE: The NSLP can play an important role in reducing the risk of heart disease and probably cancer in the next generation of adults by implementing the dietary guidance of the Surgeon General, the National Academy of Sciences-National Research Council (NAS-NRC), and the National Cancer Institute. The American Heart Association, the American Cancer Society, and many other organizations are now urging schools to provide low-fat meals and to teach children healthier eating habits.

Numerous studies on populations, individuals, and animals show that high blood cholesterol levels are a major cause of heart disease, America's number-one killer. Diets high in saturated fat and cholesterol raise blood cholesterol levels.

Mounting evidence indicates that heart disease has its beginnings in childhood:

- Children who have high cholesterol levels, a key indicator of heart-disease risk, are likely to maintain high levels as adults.²
- In countries, such as the United States, which have high rates of heart disease among adults, children's cholesterol levels are higher than in countries that have low rates of adult heart disease.³
- Children with high cholesterol levels are more likely to develop lesions in their arteries than children with low cholesterol levels. Those lesions signal an early stage of heart disease and have been found in children as young as ten years of age.⁴

Recent studies have shown that an estimated 25 percent of American children have cholesterol levels above 170 milligrams per deciliter, which is considered undesirably high for children.⁵

The American Heart Association recommends that children two years of age and older get no more than 30 percent of their total calories from fat, no more than 10 percent of their calories from saturated fat, and no more than 100 milligrams of cholesterol per 1,000 calories. These recommendations are safe and adequate for normal growth and development in children, but they may not represent *optimal* levels. The American Health Foundation and others have urged diets containing 25 percent of calories or less from fat. Recent studies have shown that diets providing 10 percent of calories from fat and virtually no cholesterol can actually reverse the clogging of arteries in adults.⁶

It appears that the diets of only about one child in four meets AHA guidelines for saturated fat intake. Just as many children are getting twice the recommended level of saturated fat.⁷

Numerous studies suggest that diets high in total fat may promote cancers of the breast and colon.^{8,9,10} For example, the Japanese, who traditionally have consumed low-fat diets, have lower rates of these cancers than Americans, who consume high-fat diets. However, the Japanese have increased their fat intake over the last 30 years, and breast and colon cancer rates are increasing accordingly. Furthermore, the rates of breast and colon cancers rise in people who migrate from countries in which a low-fat diet is common to countries in which higher-fat diets are the norm. In fact, all populations at high risk for breast and colon cancer have at least one thing in common: they eat fatty diets.

The American Cancer Society and other health authorities recommend that children eat less fat, because they recognize that childhood eating patterns may last a lifetime. Furthermore, they reason, if the development of cancer is, as expected, a long process, the sooner one starts eating a low-risk diet, the better. *The Surgeon General's Report on Nutrition and Health* (1988), the NAS-NRC's report on *Diet and Health* (1989), and the National Cancer Institute all urge Americans to get no more than 30 percent of their calories from fat.^{11,12} A 1989 HHS study suggests that at least 40,000 deaths from heart disease, cancer, and stroke could be prevented annually if fat intake were decreased from the current 37 percent of calories to 30 percent.¹³

No recent national studies have measured the average fat content in school lunches. Calculations by the Center for Science in the Public Interest and by Marriott Corporation of sample menus from three school-lunch programs found that two of the programs averaged 42 percent of calories from fat. The third program averaged 41 percent of calories from fat when whole milk was served, and 35 percent with skim milk. Table 1 illustrates how the type of milk affects fat content of lunches. Meals that provide less fat will have to increase portions of bread, fruit, potatoes, or other ingredients to compensate for the loss of calories. The challenge is to provide low-fat meals that children will find tasty and satiating. (For suggestions on reducing fat content, see Appendix 2.)

TIER 1 OBJECTIVES:

TOTAL FAT For 7- to 10-year-olds, lunches, averaged over a month, should provide no more than 26 grams of fat. That is equivalent to 35 percent of calories from fat in a 667-calorie lunch. At least once a week, the lunch should be no more than 30 percent of calories (22 grams) from fat. (For older children's calorie requirements and recommended fat intakes, see Table 2.)

SATURATED FAT For 7- to 10-year-olds, lunches, averaged over a month, should provide no more than 9 grams of saturated fat. That is equivalent to 12 percent of lunch calories from saturated fat. At least once a week, the lunch should provide entrees that provide fewer than 7 grams of saturated fat per serving. (For other age groups, see Table 2.)

TIER 2 OBJECTIVES:

TOTAL FAT For 7- to 10-year-olds, lunches, averaged over a month, should provide no more than 22 grams of fat. That amounts to no more than 30 percent of calories from fat. At least eight times a month, the lunch should provide entrees containing no more than 10-15 grams of fat.

SATURATED FAT For 7- to 10-year-olds, lunches, averaged over a month, should provide no more than 7 grams of saturated fat. That amounts to no more than 10 percent of calories from saturated fat.

2. FIBER FROM FRUITS, VEGETABLES, & WHOLE GRAINS

GOAL: Provide more fresh fruit, legumes, fresh vegetables, whole grains, and other fiber-rich foods.

RATIONALE: A growing body of evidence indicates that diets rich in fiber-containing foods, such as fruits, vegetables, beans, and whole grains, can help prevent colon cancer.^{14,15} International comparisons show that countries consuming more fiber, especially from cereals, have lower rates of colon cancer.¹⁶ Moreover, populations at high risk for colon cancer, such as the residents of urban areas in Finland and Denmark consume less fiber than low-risk populations in rural sections of those countries.¹⁷ The high-risk groups also have lower fecal bulk and higher bile acid concentrations, supporting the theory that fiber prevents colon cancer by diluting fecal carcinogens, such as breakdown products of bile acids.¹⁸

Both the Surgeon General's and the NAS-NRC's reports on nutrition have urged Americans to consume more whole grains, beans, fruits, and vegetables. The National Cancer Institute (NCI) recommends that we consume 20 to 30 grams of fiber a day from such foods. In contrast, researchers in Bogalusa, Louisiana, found that children's diets had an average of only 3 grams of fiber a day; that's less than the amount found in one baked potato.¹⁹

The exact contribution of the fiber in foods — as opposed to other constituents — to reducing the risk of cancer is uncertain. However, as long as people eat the natural foods, as opposed to fiber-enriched food products, it doesn't matter which constituent in the food is protective.

Foods rich in water-soluble fiber may help reduce the risk of heart disease by lowering blood cholesterol levels.²⁰ Beans, vegetables, and some grains, such as oats, have been shown to lower blood cholesterol in some studies. While this evidence is still preliminary, it suggests an additional reason to consume more of these healthful foods. The NAS-NRC's report, *Diet and Health*, recommends that people eat six servings daily of whole grains and five or more daily servings of vegetables and fruits, especially green and yellow vegetables and citrus fruits.

TIER 1 OBJECTIVES: Increase the servings of whole grains, cereals, legumes, fresh vegetables, and fresh fruit in school lunches. Provide per month at least 8 naturally high-fiber (2 grams or more per serving) offerings — such as potatoes with the skin, legumes, fresh fruit, whole grains, and fresh vegetables.

TIER 2 OBJECTIVES: Increase servings of fresh fruits and vegetables. Provide per month at least 15 high-fiber servings of legumes, fruits, and vegetables. Require that half of all bread or grain servings be made of 100 percent whole grains or an equivalent. For example, schools could provide an equivalent by serving breads made from 50 percent whole-grain and 50 percent refined-grain flour or by serving pasta made from refined grains on one day and serving whole-wheat bulgur, brown rice, or other whole grain the next day.

3. SODIUM

GOAL: Lower sodium levels in school lunches.

RATIONALE: The American diet contains too much sodium, which increases the risk of hypertension (high blood pressure) and, therefore, heart disease and stroke in millions of people. Since at-risk individuals cannot be identified prior to the onset of hypertension, the NAS-NRC has urged everyone to consume no more than 2,400 milligrams (mg) of sodium a day and ideally less than 1,800 mg.²¹

That advice applies first and foremost to the 60 million hypertensive adults. A low-sodium diet may be all they need to lower their blood pressure to safe levels. But NAS-NRC's recommendation also applies to healthy Americans, because eating less sodium may prevent the development of hypertension. That conclusion is based on animal experiments, population comparisons (high- versus low-sodium diets), and human clinical studies.^{22,23,24} The clinical studies show that lower sodium intakes can lower blood pressure in healthy people.^{25,26}

Few researchers have studied links between sodium intake and blood pressure during childhood. However, one study has shown that babies fed high-sodium diets during their first six months of life have higher blood pressures than babies on lower-sodium diets.²⁷ Furthermore, children with mildly elevated blood pressure are prone to developing hypertension in their twenties and thirties. Recent evidence indicates that 50 percent of normal weight and 90 percent of overweight six-year-olds with blood pressures at the upper end of the normal range will go on to develop hypertension as adults.²⁸

In school lunches, sodium levels vary considerably from menu to menu. Sodium levels in typical lunches served by three school systems in the Washington, D.C., area and one in Oregon ranged from 300 mg to 1,550 mg.²⁹ The taste preference for salty foods is learned, and school lunches can accustom children to less salty foods by serving lower-sodium processed foods and adding less salt to foods prepared at schools.

School-food authorities in Virginia's Fairfax County lowered sodium levels in 16 sample menus to an average of 860 mg of sodium. Levels ranged from a low of 513 mg to a high of 1,800 mg, which is equivalent to almost a teaspoon of salt. That wide variation suggests that schools could serve lower-sodium meals and still satisfy students' taste preferences.

TIER 1 OBJECTIVES: Require vendors to disclose sodium levels of their products so purchasers can choose lower-sodium alternatives. Lunches should contain 1,000 mg or less of sodium averaged over a month.

TIER 2 OBJECTIVE: Lunches should contain 800 mg or less of sodium averaged over a month.

4. NON-NUTRITIOUS COMPETITIVE FOODS

GOAL: Reduce the availability of relatively non-nutritious foods in schools.

RATIONALE: Short of funds for uniforms, arts supplies, and office equipment, many schools now raise money for activities by selling candy, chips, and sodas at school. Vending machines stocked with sodas and candy stand next to cafeterias, and school-run canteens sell candy and chips. School food-service officials report that lunch sales drop noticeably during periodic school candy sales. The sale of non-nutritious, "competitive" foods encourages children to fill their stomachs with sugary, fatty, low-fiber foods.

Congress allows state agencies and school-food authorities to control the sale of foods sold in competition with school lunch, but it prohibits "the sale of foods of minimal nutritional value in the food service areas during the lunch periods." The sale of competitive foods at other times and places is allowed only if the income is used for the school or by student organizations. State agencies may impose additional restrictions on the sale of foods.

According to the USDA, "minimal nutritional value" means that a food provides less than 5 percent of the U.S. Recommended Daily Allowance for each of eight specified nutrients per serving. The eight nutrients are protein, vitamin A, vitamin C, niacin, riboflavin, thiamin, calcium, and iron. This definition bars the sale of soda pop, chewing gum, and hard candy, but permits the sale of most candy bars, chips, and vitamin-fortified drinks, notwithstanding their high content of fat or sugar.

The sale of non-nutritious competitive foods has been banned in Cincinnati, Washington, D.C., West Virginia, Louisiana, Arizona, and Massachusetts. In many cities, the practice is discouraged but common. The problem of competitive foods may be most effectively resolved through strong state or local legislation prohibiting the sale of such foods on school property during school hours. Concurrently, boards of education and state legislatures should address the financial problems that prompted schools to sell non-nutritious foods.

It is difficult, if not impossible, to draw a clear line between junky foods and healthy foods, when one wishes to consider not just the absence of protein, vitamins, and minerals, but high levels of fat, sodium, and sugar. For instance, restrictions based on levels of fat, cholesterol, or sodium in foods could well bar cheese, eggs, bread, and other items served in lunches. Schools, in consultation with nutrition experts, will have to use their judgement in deciding exactly where to draw the line.

TIER 1 OBJECTIVE: Prohibit the sale of candy, sodas, fried chips, and other relatively non-nutritious foods on school property during school hours.

5. ADDITIONAL RECOMMENDATIONS

The Commission is also concerned about cholesterol, sugar, and food additives. Schools are urged to consider levels of those substances when developing menus and choosing ingredients.

CHOLESTEROL Dietary cholesterol is the second most important dietary influence, after saturated fat, on blood cholesterol levels. The American Heart Association recommends that a child's diet provide no more than 100 mg of cholesterol per 1,000 calories. Bogalusa, Louisiana, researchers have found that children are currently eating an average of 120-140 mg of cholesterol per 1,000 calories.³⁰ The group most at risk for developing high blood cholesterol levels — white males — consumed the most dietary cholesterol. Half of the white, teen-age boys ingested over 350 mg of cholesterol a day.

If schools meet the fat and saturated fat guidelines provided above, school lunches will generally be low in cholesterol. Eggs are the most concentrated source of cholesterol. To reduce cholesterol, schools should serve eggs less frequently or discard half of the cholesterol-rich yolks to the extent possible.

Ideally, schools would monitor or spot-check levels of cholesterol in meals. Meals should average 100 mg or less of cholesterol.

SUGAR

Sugar, especially when present in sticky foods, promotes tooth decay. In addition, sugar is found in cakes, pies, ice cream, candy bars, and other foods that are often thought of as "sweets," but might be better thought of as "fats." Eating fewer of those foods would reduce fat intake, as well as sugar intake. Finally, many sugary foods, such as soft drinks, provide calories without also providing valuable nutrients. If a diet contains 20 percent of calories from sugar, as many children's diets do, it could be difficult for a child to obtain all the needed nutrients from the foods providing the remaining 80 percent of calories.

Many schools only occasionally offer sweet (and fatty) desserts and breakfast items such as sweet rolls, cakes, puddings, and ice cream. Some, however, serve them frequently. Sugary foods can be cut back, but should be done carefully to maintain children's participation in the school-food programs. Schools should encourage children to develop a taste for nutritious, naturally sweet foods, such as fruits. Breakfast programs should use cereals that are no more than 20 percent sugar by weight. Lunch programs should avoid added-sugar, high-fat desserts, such as ice cream, cookies, and cakes. When schools do serve those items, they should

use recipes that reduce the sugar and fat and increase the fiber where appropriate. Canned fruit should be packed in juice or very light syrup. A la carte programs and school snack sales should include fruit, low-fat yogurt, raw vegetables, and other healthy snacks. Classroom parties should feature healthy snacks.

FOOD ADDITIVES

Most food additives are safe. However, several additives cause, or are suspected of causing, allergic or behavioral reactions, cancer, or other health problems in a small percentage of individuals. Those additives have not been proven to be harmful to the degree required for a total government ban, but their use contradicts the philosophy of offering children the best foods possible. Foods served at schools, either as part of the breakfast and lunch programs or as competitive foods, should meet even higher standards than foods for the general population. Additives that pose even a remote possibility of adversely affecting children should not be used. School food-services in New York City and several other cities have barred one or more of the questionable additives from the foods they serve. Fortunately, more and more manufacturers are producing additive-free foods that are competitive in terms of taste and cost with conventional processed foods.

Schools should review food purchases for the presence of the following additives and eliminate them to the extent possible (see Appendix 3):

acesulfame-K
aspartame
BHA
BHT
caffeine

monosodium glutamate (MSG)
saccharin
sodium nitrite
sulfite
Yellow dye No. 5

RECOMMENDATIONS FOR THE FEDERAL GOVERNMENT

1. SCHOOL-LUNCH FUNDING

GOAL: Adequately federally funded school meals.

RATIONALE: Congress appropriated nine cents per child's lunch in 1946; that is the equivalent of fifty-seven cents in 1990 dollars. The current basic reimbursement (excluding reimbursements for low-income children) is twenty-eight to thirty-three cents, half the original support.

During the 1980s, many school systems raised school-lunch prices to offset the loss of federal dollars and their tightening budgets. With every one-cent price increase, however, one percent of the school's participating children leave the program.³¹ Some schools choose to leave the NSLP entirely because they have stretched their food dollars as far as they could, and the federal support for NSLP is simply not enough. These schools then charge whatever the market will bear, while offering meals that may resemble fast-food restaurant fare more than standard well-rounded school meals.

TIER 1 OBJECTIVE: Congress, based on a careful review of the real-world costs of serving healthful meals, should greatly increase funding for school meals to provide the financial means for ensuring that school meals reflect what is known about the relationship between diet and health.

2. NUTRITION EDUCATION AND TRAINING

GOAL: Adequately federally funded program to train food-service workers and to teach children about nutrition.

RATIONALE: Most children have learned that typical dessert-like foods are not good for them. Children have a harder time understanding why they should eat fewer high-fat foods, such as hamburgers, hot dogs, and potato chips, and more high-fiber, low-fat alternatives, such as baked potatoes, fruits, and vegetables. Nutrition-education programs carried out in conjunction with the school-lunch program could teach students the role of dietary fat, cholesterol, sodium, and fiber in a healthy diet. Researchers have found that children adapt best to healthy, new foods in school cafeterias when food changes are accompanied by nutrition education in the classroom.³²

Nutrition education is also important as an influence on foods eaten outside of school. According to one study, urban children get more than half their calories outside the home.³³ Since those foods are often chosen by the children themselves, not their parents, it is essential that children understand the fundamentals of nutrition.

TIER 1 OBJECTIVE: The Nutrition Education and Training program should be funded at the levels already approved by Congress – \$7.5 million for fiscal 1991, \$20 million for fiscal 1992, and \$25 million for fiscal 1993 and 1994.

TIER 2 OBJECTIVES: The NET program should be funded at its previous highest level (\$20 million in Fiscal Year 1980), which is equivalent to \$29 million in 1990 dollars. At a minimum, funding beyond 1994 should be tied to inflation.

3. MILK

GOAL: Reduce fat content of milk served with school meals.

RATIONALE: To help American children eat a healthy diet with the necessary calcium, but without excess saturated fat, Congress should require schools to offer milk that is low in fat. Currently the law requires that schools serve whole milk and low-fat milk. The 8 grams of fat in an 8-ounce serving of whole milk provide 72 calories. Offering 1 percent low-fat or skim milk is one of the simplest ways to significantly lower the fat and the saturated-fat content without reducing children's participation in the lunch program. With McDonald's outlets now serving 1 percent milk, schools should be less reluctant to offer it.

TIER 1 OBJECTIVE: Milk with 2 percent or less fat should be the standard beverage. Schools should not be required to offer whole milk.

TIER 2 OBJECTIVE: Milk with 1 percent or less fat should be the standard beverage.

4. SCHOOL LUNCH NUTRITIONAL REQUIREMENTS

GOAL: USDA should set nutritional standards for school lunches and for foods purchased from commercial vendors.

RATIONALE: School food-service systems attempting to provide more nutritious lunches can encounter problems with vendors or with recalcitrant schools. One vendor responding to a Fairfax County, Virginia, request to provide a lower-sodium salad dressing insisted that that was impossible, only to call back six months later expressing interest in the modification. Some food-service personnel, though encouraged by superiors to serve nutritionally balanced lunches, insist on serving highly popular fatty meals. Nutritional standards set by USDA for school lunches could facilitate the serving of healthful meals.

Having more information about the foods that go into school meals would help school systems improve the meals. Massachusetts already requires vendors to disclose levels of fat and calories per serving. That information has enabled Boston's food service to purchase more nutritious brands.³⁴ Information from vendors and strict USDA-mandated nutritional standards for fat, sodium, and other nutrients for USDA-supplied commodities and other foods would be particularly helpful to small school districts, which have little clout with vendors and no computer facilities for performing nutritional analyses.

TIER 1 OBJECTIVES: USDA could improve school meals nationally by adopting regulations that set nutritional standards (similar to the recommendations in this report) that are consistent with the recommendations of the Surgeon General, NAS-NRC, and *Dietary Guidelines for Americans*.

APPENDIX 1

THE NATIONAL SCHOOL LUNCH PROGRAM

The National School Lunch Program was created in 1946, both to prevent the malnutrition that was discovered in Army volunteers and to dispose of farm surpluses. It has helped fulfill both missions by providing schools with low-cost surplus commodities worth billions of dollars.

In 1962, additional funds were authorized so that children who could not afford the full price of lunch would be able to receive free and reduced-price lunches. In 1970, Congress instituted uniform national income guidelines for free and reduced-price meals so that all children, regardless of income, would be able to enjoy the benefits of school meals. For many children, the school lunch and breakfast programs provide between 60 to 80 percent of their daily caloric intake.³⁵

In 1981, the government's Child Nutrition Program budget, including NSLP, was cut by one third. Fortuitous increases in the availability of low-cost bonus commodities cushioned those budget cuts. But the 1985 Farm Bill changed farm subsidy programs, decreasing the School Lunch Program's bonus commodity funds from an annual high of \$900 million to \$125 million dollars in 1989. Butter accounted for 80 percent of the 1989 bonus commodities.

While federal assistance has been shrinking, food, labor, and other costs have been rising. To cover the increasing costs of employee benefits, local school systems have had to supplement federal funds with local monies, charge higher prices, buy less expensive foods, and find other ways to balance their budgets.

APPENDIX 2

SUGGESTIONS ON REDUCING DIETARY FAT IN SCHOOL FOOD PREPARATION*

- Install salad bars
- Institute "Heart-healthy" days when especially low-fat meals are served
- Offer low-fat cheeses, low-fat salad dressings, and poultry without skin
- Offer skim milk (Simply shifting from whole milk to skim can lower the percentage of calories from fat in meals by five to eight points.)
- Substitute turkey versions of ground beef or ham
- Oven bake chicken nuggets without breading; serve with non-fat sauces
- Prepare chili with beans and without meat
- Serve quick breads like banana bread instead of frosted cake
- Offer frozen yogurt instead of ice cream
- Serve meat with broth instead of gravy from pan drippings
- Offer grilled chicken on a whole wheat bun without mayonnaise-based topping
- Offer Chinese and Mexican dishes such as stir-fry chicken with vegetables and beans in soft-shell taco
- Serve pizza with low-fat cheese and vegetables instead of meat

*For additional suggestions and healthful recipes, see *Healthwise Quantity Cookbook*, V. Aronowitz and S. Turner (Center for Science in the Public Interest, 1990) and *Changing the Course* (American Cancer Society, 1990).

APPENDIX 3

FOOD ADDITIVES*

- * Acesulfame-K and aspartame (NutraSweet) — artificial sweeteners — need to be more fully tested for cancer-causing effects before they can be considered totally safe. Aspartame may cause occasional behavioral reactions.
- * BHA and BHT preservatives have caused cancer in several animal studies.
- * Caffeine, added to many soft drinks, is a mild stimulant and is mildly addictive.
- * Monosodium glutamate (MSG) is a widely used **flavor** enhancer that causes headaches, muscle tension, or other symptoms in **susceptible** individuals. Prepared soups and other foods may contain **MSG** or its close relative, HVP, hydrolyzed vegetable protein.
- * Saccharin is an artificial sweetener that increases the risk of cancer in animals, a risk announced by warning labels.
- * Sodium nitrite, a preservative in cured meat, can react with other chemicals to form cancer-causing nitrosamines. Bacon, because it is fried at a high temperature, is of special concern.
- * Sulfite preservatives have been banned by the Food and Drug Administration from most fresh fruits and vegetables because they cause serious, sometimes fatal, allergic reactions in sensitive individuals (mostly asthmatics). They remain widely used in golden raisins and dehydrated potato flakes.
- * Yellow dye No. 5 causes occasional allergic reactions. Dyes have caused behavioral reactions in a small number of children. Numerous dyes have been banned because they caused cancer in animals, and several currently used dyes are suspected of increasing cancer risks slightly.

TABLE 1

How Type of Milk Affects Fat Content of Lunches

<u>Meal*</u>	<u>Type of Milk</u>	<u>Total calories</u>	<u>Grams of fat</u>	<u>percent of calories from fat</u>
Grilled cheese, peas	with whole milk	648	29.8	41.4%
	with 1% milk	598	24.6	37.0%
	with skim milk	583	22	34.0%
Hot dog, corn, banana	with whole milk	585	21.5	33.1%
	with 1% milk	535	16.3	27.4%
	with skim milk	520	13.7	23.7%
Chicken nuggets, fries	with whole milk	889	41.5	42.0%
	with 1% milk	839	36.3	38.9%
	with skim milk	824	33.7	36.8%
Burger, vegetables with dip	with whole milk	652	30.1	41.5%
	with 1% milk	602	24.9	37.2%
	with skim milk	587	22.3	34.2%
Egg and cheese salad, soft pretzel	with whole milk	767	34.4	40.4%
	with 1% milk	717	29.2	36.7%
	with skim milk	702	26.6	34.1%

* Based on Type A meals showing only the foods contributing measurable fat.

TABLE 2

Dietary Guidelines: Lunchtime Fat Grams and Calories*

Age	<u>Percent of Lunch Calories from Fat</u>					
	Calories RDA ¹	Lunch Calories (1/3 of RDA)	<u>35 percent</u>		<u>30 percent²</u>	
			fat grams	fat calories	fat grams	fat calories
boys & girls 7-10	2000	667	26.0	234	22.2	200
girls 11 & over	2200	733	28.5	256	24.4	220
boys 11-14	2500	833	32.4	292	27.8	250
boys 15-18	3000	1000	38.9	350	33.3	300

* Saturated fat should comprise no more than one-third of total fat figure shown.

¹ *Recommended Dietary Allowances*, Subcommittee on the Tenth Edition of the RDAs, Food and Nutrition Board, National Research Council, National Academy Press, 1989.

² 30% is the American Heart Association recommendation for all children over 2 years old.

NOTES

1. "Offer versus serve" was an attempt by Congress to reduce wasted food by allowing children to take only the foods they wanted; as long as they chose three of the five components, their lunch would qualify for federal reimbursement.
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